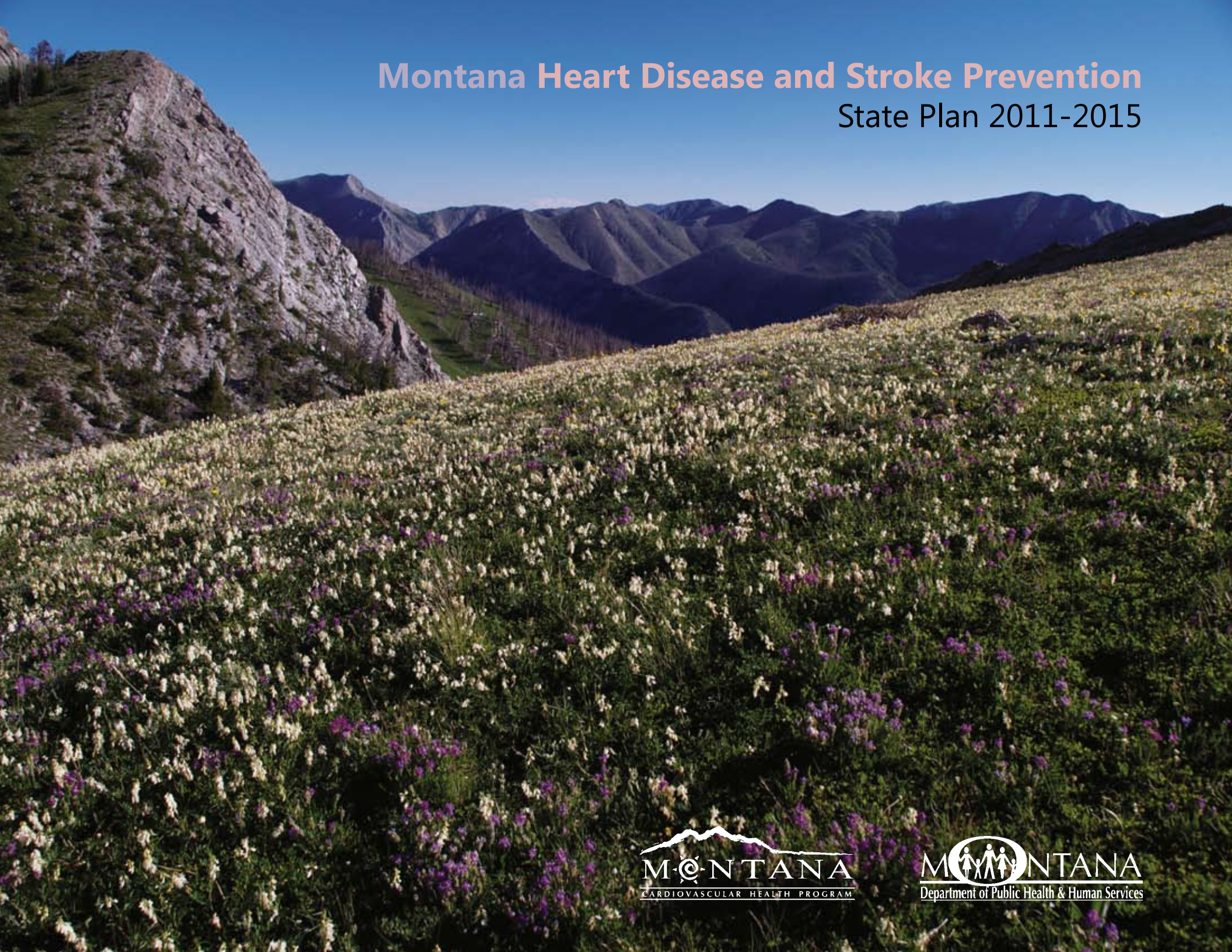


Montana Heart Disease and Stroke Prevention

State Plan 2011-2015

MONTANA
CARDIOVASCULAR HEALTH PROGRAM

MONTANA
Department of Public Health & Human Services

Heart Healthy and Stroke Free

A Message from DPHHS Director Anna Whiting Sorrell

It is a pleasure to present the Montana Heart Disease and Stroke Prevention State Plan for 2011-2015. Strategies in this state plan build on the dedication and collaboration among communities and healthcare professionals across the state to address cardiovascular disease – Montana's leading cause of death.

This plan documents both progress and challenges. Cardiovascular disease death rates have decreased in Montana communities, including American Indian communities with their disparate burden. The state plan enhances activities important to rural Montanans such as telestroke and a cardiac initiative that have brought timely state-of-the-art care to rural communities. The plan presents opportunities to recognize and continue these cooperative activities between Montanan's referral hospitals and outlying communities statewide.

Worksites will be increasingly important in protecting the health of Montanans, and this state plan provides the foundation for activities and policies that lead to heart healthy worksites.

Preventing heart attack and stroke has been emphasized by the Department with innovative projects to decrease smoking rates, control high blood pressure and high cholesterol as well as improve the quality of preventive care. With this state plan, all Montanans can work jointly for a heart healthy future.

Anna Whiting Sorrell, Director
Montana Department of Public Health and Human Services

Mission

The mission of the Montana Cardiovascular Health Program is to improve the health of Montanans by addressing heart disease, stroke and related cardiovascular risk factors including high blood pressure and high cholesterol.

Table of Contents

Background

Since 2000, the Montana Cardiovascular Health (CVH) Program has been funded by the Centers for Disease Control and Prevention (CDC). The program's long-term vision for a heart healthy and stroke free Montana is being carried out through the Hypertension Improvement Program, Stroke Initiative and Cardiac Initiative. With these three statewide efforts, the program and its healthcare and worksite partners have addressed the six priority areas of CDC's Division for Heart Disease and Stroke Prevention with particular emphasis placed on the first priority area:

- ***Prevent and control high blood pressure.***
- ***Prevent and control high blood cholesterol.***
- ***Increase knowledge of signs and symptoms for heart attack and stroke and the importance of calling 9-1-1.***
- ***Improve emergency response.***
- ***Improve quality of heart disease and stroke care.***
- ***Eliminate health disparities.***

As guided by CDC, the CVH Program's future focus will also encompass tobacco cessation strategies, in partnership with the Montana Tobacco Use Prevention Program, and sodium reduction strategies. The CVH Program is collaborating with the Montana Diabetes Project to implement the cardiovascular disease and diabetes prevention program. This 10-month lifestyle intervention has been shown to improve cardiometabolic risk factors.

Within the above priority areas, the CVH Program and its partners strive for projects that result in policy and systems change, are sustainable, public health oriented and have measurable impact. The projects often involve: 1) adults aged 45 years and older (since cardiovascular risk increases with age); 2) American Indians, who have higher age-adjusted cardiovascular disease mortality rates compared to non-Indians in the state; and 3) Montanans living in rural areas where there is limited local access to rapid, advanced care for heart disease and stroke.

MONTANA

CARDIOVASCULAR HEALTH PROGRAM

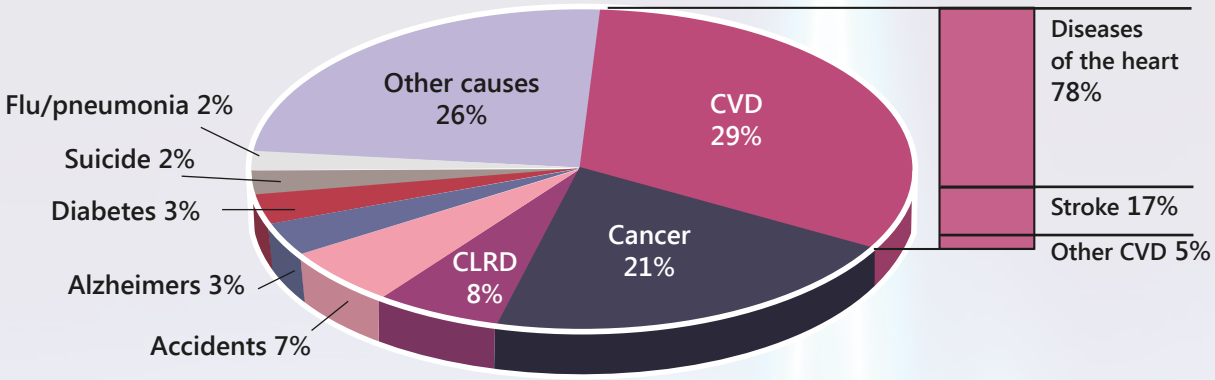
Acknowledgements

The Cardiovascular Health Program greatly appreciates the efforts of the Cardiac Workgroup, Hypertension Coalition, Stroke Workgroup and Worksite Health Promotion Coalition members.

The commitment and expertise of these professionals have led to improved care of Montanans and support for heart healthy behaviors. The coalitions and workgroups also played a vital role in identifying the state plan strategies.

Challenges and Progress in Heart Disease and Stroke

Figure 1.
Leading causes of death, Montana, 2008

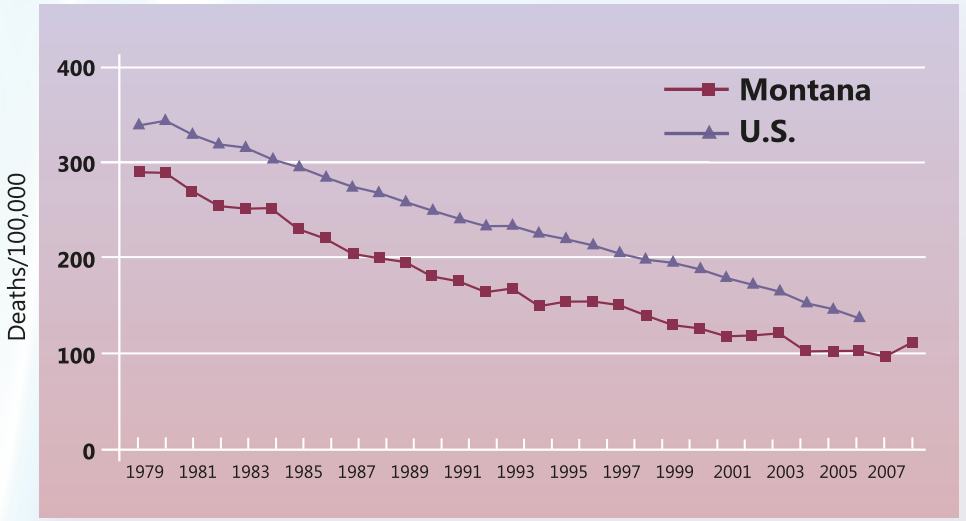


In 2008, over one-quarter of all deaths in Montana were attributed to cardiovascular disease. Heart disease and stroke were the first and fifth leading causes of death, respectively.

- To establish a system of care for acute coronary syndrome patients, the CVH Program and Cardiac Workgroup funded trainings for health professionals and developed and disseminated standing orders, evidence-based care guidelines, quality score cards and other cardiac materials to Montana's Critical Access Hospitals. This will facilitate coordination with distant referral centers and specialists. The cardiac toolkit is available at cardiac.mt.gov.

- Coordinated by the CVH Program, 122 cardiac rehabilitation programs in 15 states participate in a highly acclaimed outcomes project that tracks indicators to improve the quality of care given to cardiac rehabilitation patients.

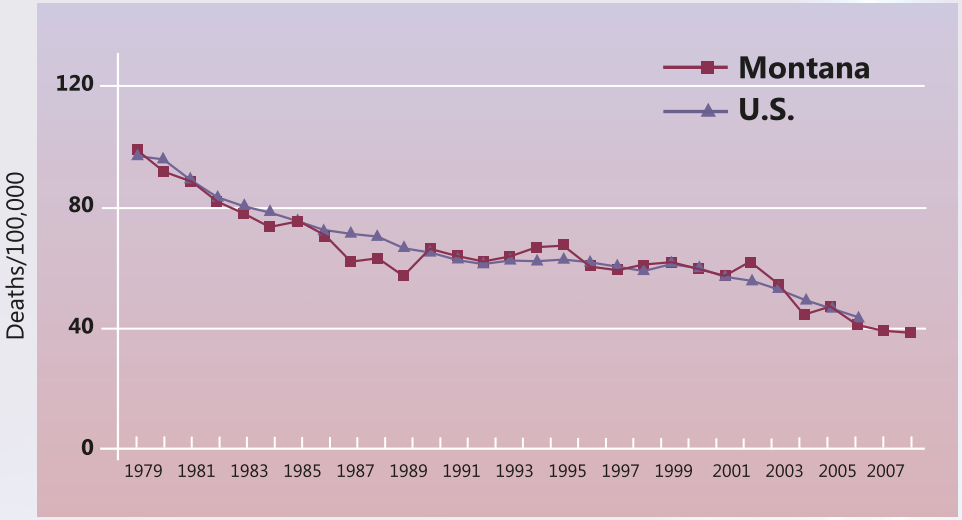
Figure 2.
Age-adjusted coronary heart disease mortality rates for Montana and the US, 1979-2008



Similar to the U.S., Montana's coronary heart disease mortality rates have declined over the past 30 years.

Figure 3.

Age-adjusted stroke mortality rates for Montana and the US, 1979-2008.



Age-adjusted stroke mortality rates in Montana and the US were similar, and the rates have decreased from 1979-2008.

- Via conferences, on-site trainings and online courses, the Montana Stroke Initiative has provided professional education to pre-hospital staff and hospital staff.

- Rural communities lack comprehensive local access to rapid, acute advanced stroke care. Through a 2-way interactive telestroke system installed in six hospitals, the Stroke Workgroup and CVH Program have improved the capacity of rural hospitals to conduct stroke consults with neurologists from stroke centers. The telestroke system can facilitate rapid administration of a time-dependent, clot-busting medication at a rural facility. In addition, the passage of a statewide pre-hospital stroke protocol may enhance emergency response to an acute stroke. Stroke resources for health professionals are posted at www.montanastroke.org.

Figure 4.

GIS map on telestroke

This map illustrates 30-, 60- and 90-minute drive times to current and projected Montana telestroke sites.

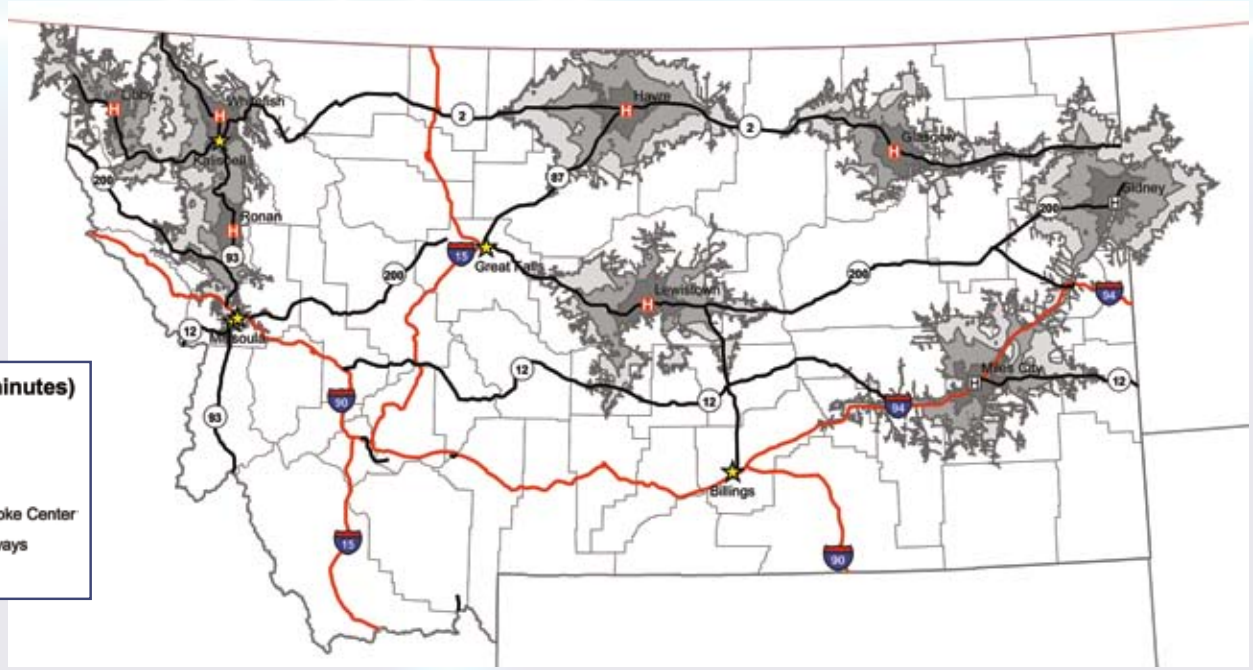
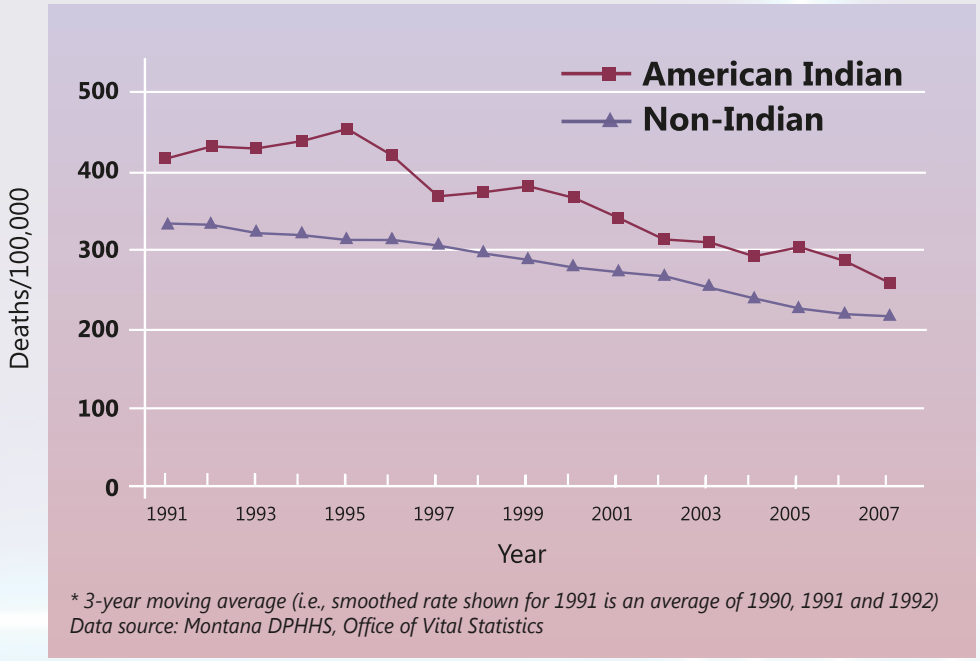


Figure 5.

Smoothed* cardiovascular disease mortality rates, for American Indian and non-American Indian, Montana, 1990-2008.



** 3-year moving average (i.e., smoothed rate shown for 1991 is an average of 1990, 1991 and 1992)*
Data source: Montana DPHHS, Office of Vital Statistics

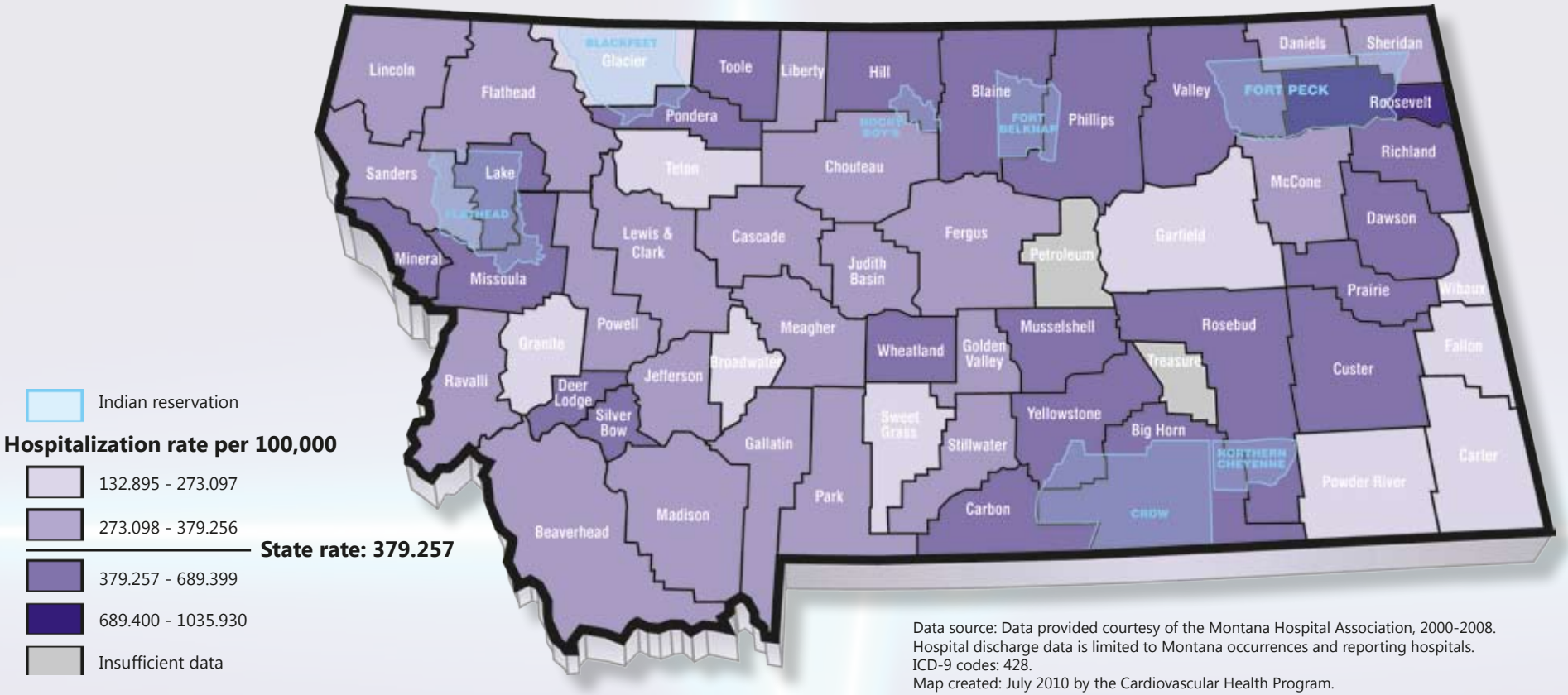
American Indians in Montana experienced higher age-adjusted CVD mortality rates than non-Indians in Montana from 1990-2008. Although CVD mortality rates declined, the disparity has remained.

- Completion of 14 heart attack or stroke public education campaigns (including Blackfeet, Crow, Flathead, Fort Belknap, Fort Peck and Rocky Boy's Indian Reservations) has improved Montanans' awareness of signs and symptoms and urged them to take action by calling 9-1-1 immediately.

Gerald Cooper, Browning resident, heart attack survivor
After his heart attack, Cooper threw away his cigarettes, stopped using salt in his food and started getting more exercise.

Figure 6.

Age-adjusted heart failure hospitalization rate per 100,000 for adults 35 years and older, by county, Montana, 2000-2008.



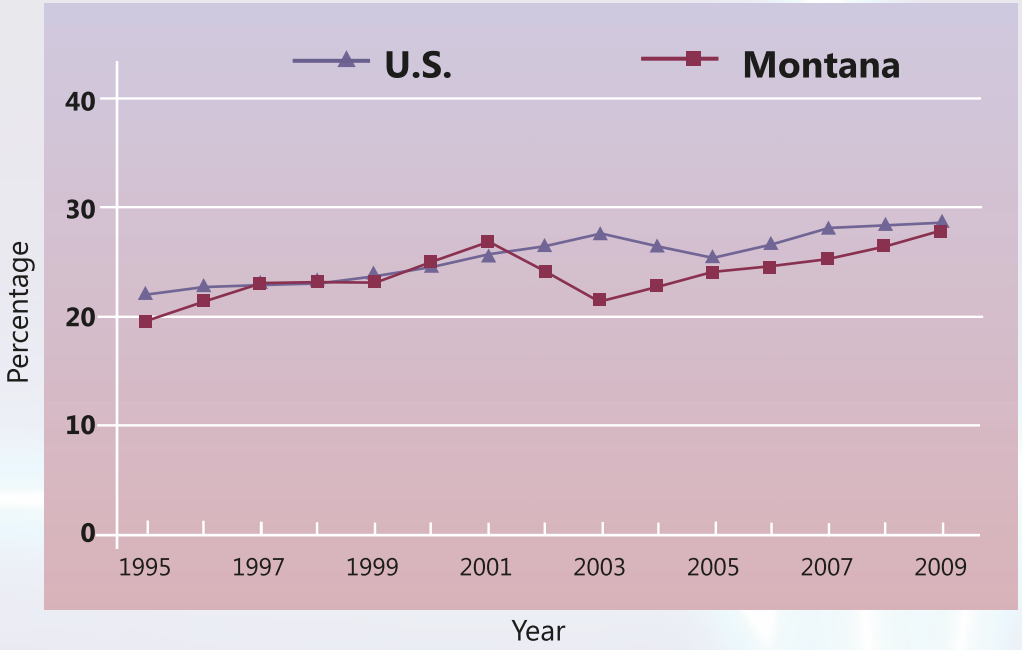
Data source: Data provided courtesy of the Montana Hospital Association, 2000-2008.
Hospital discharge data is limited to Montana occurrences and reporting hospitals.
ICD-9 codes: 428.
Map created: July 2010 by the Cardiovascular Health Program.

Counties that are above the state hospitalization rate (379.3 per 100,000 hospitalizations) are denoted in the two darker purple shades.

- The Cardiac Workgroup has identified heart failure as a particular problem. The CVH Program assisted two cardiac rehabilitation facilities in launching a heart failure program. The pilot heart failure program improved patients' systolic blood pressure, depression rate, exercise compliance, weight and perceived quality of life.

Risk Factor Reduction

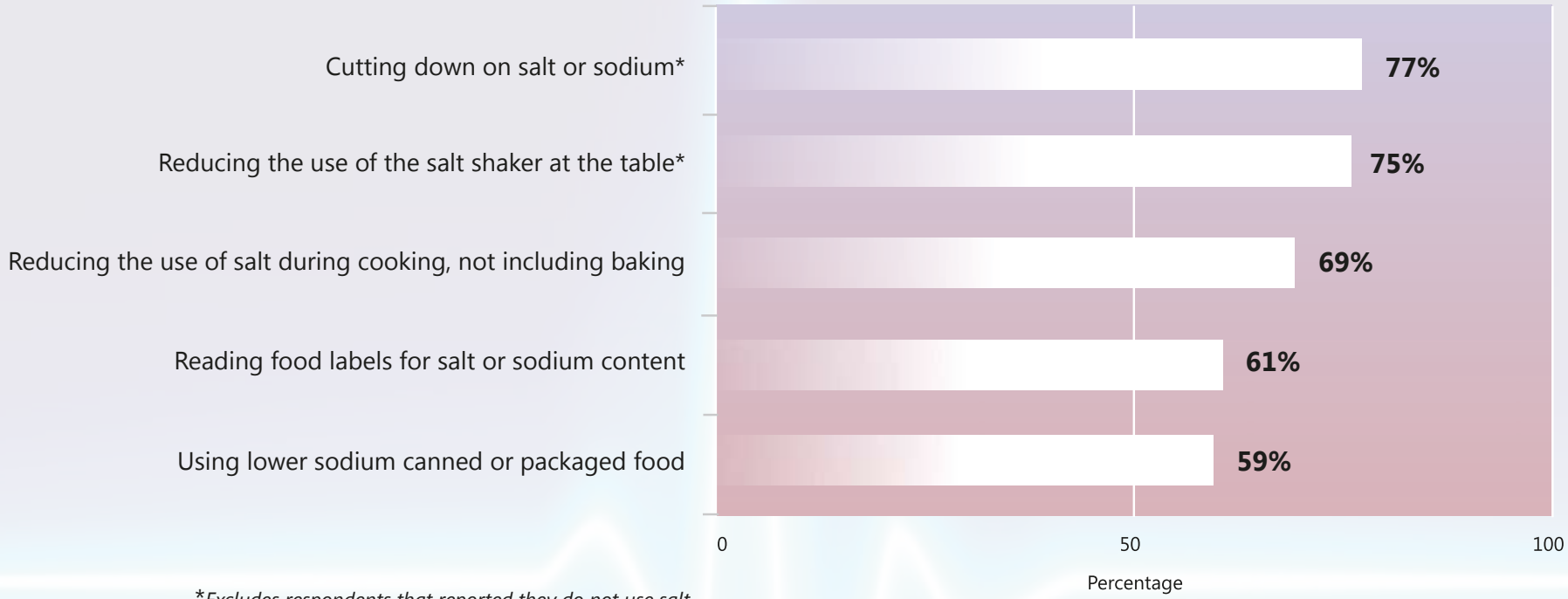
Figure 7.
Prevalence of high blood pressure, Montana, 1995 -2009.



Almost 30% of Montana adults reported a history of high blood pressure in 2009, a prevalence that increased from 19% in 1990. For US adults, the prevalence of reported high blood pressure increased from 22% in 1995 to 29% in 2009.

- Community Health Centers participating in a blood pressure collaborative improved their patients' blood pressure control rates. Patient tools included a kit with educational materials and an automated blood pressure cuff for home monitoring.

Figure 8: **Sodium reduction activities among respondents aged 45 years and older with hypertension, Montana, 2010.**



**Excludes respondents that reported they do not use salt.*

- In partnership with the Hypertension Coalition, the CVH Program is developing training materials to refine blood pressure measurement technique in a physician office setting and to promote providers' adherence to national blood pressure guidelines.
- The University of Montana Skaggs School of Pharmacy is working with the CVH Program to pilot a pharmacist-based hypertension management program.

Figure 9:

Prevalence of high cholesterol, Montana and the U.S. 1995-2009.

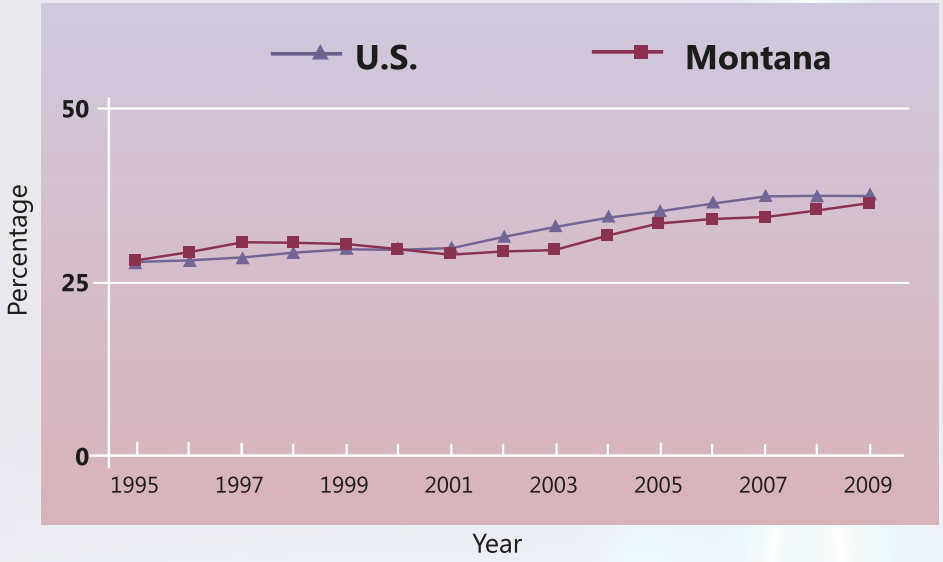
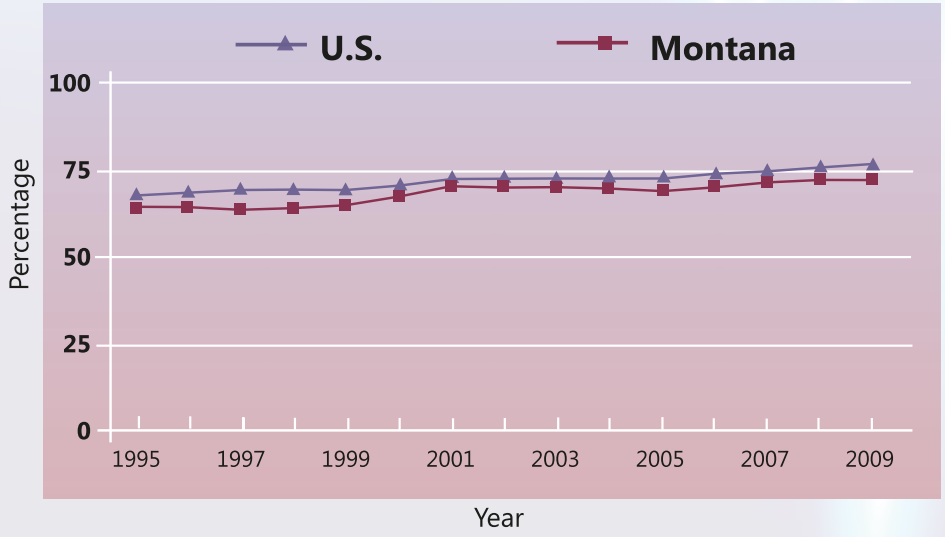


Figure 10:

Prevalence of cholesterol checked in the past 5 years, Montana and the U.S. 1995-2009.

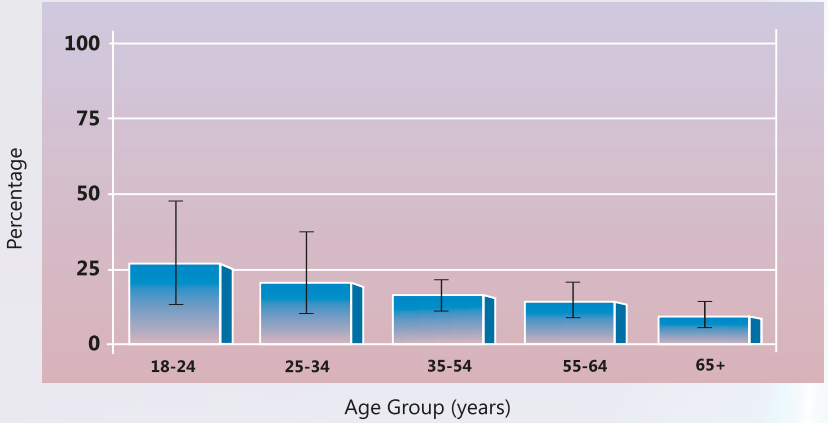


Lt. Gov. Bohlinger *awarding the Gold level of the Excellence in Worksite Health Promotion award to* ***Bette Strever****, Laurel Public Schools*

- The Worksite Health Promotion Coalition has established levels of criteria (Gold, Silver, Bronze) for Excellence in Worksite Health Promotion awards. The awards help guide Montana businesses on how to effectively structure a wellness program with components such as health screenings, disease case management, and use of employee incentives. Since 2007, 32 Montana worksites have received Excellence in Worksite Health Promotion awards.

Figure 11.

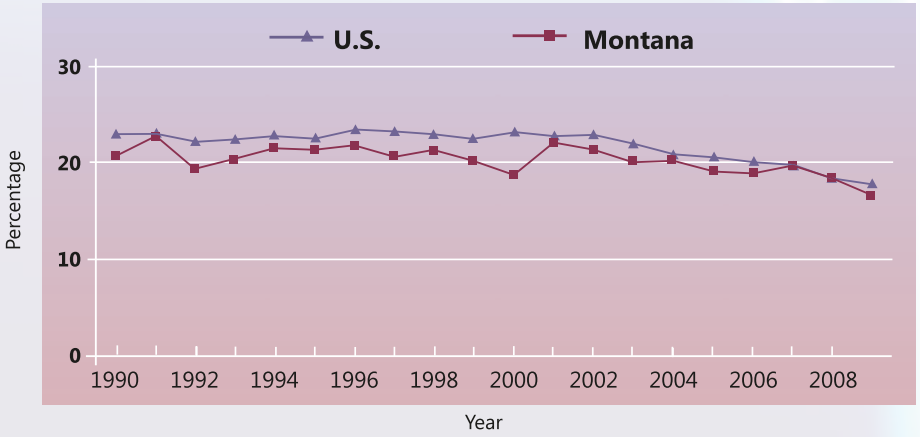
Cigarette smoking by age group, Montana Adult Tobacco Survey, 2009.



Young adults aged 18-24 are more likely to smoke than middle-aged and older adults.

Figure 12.

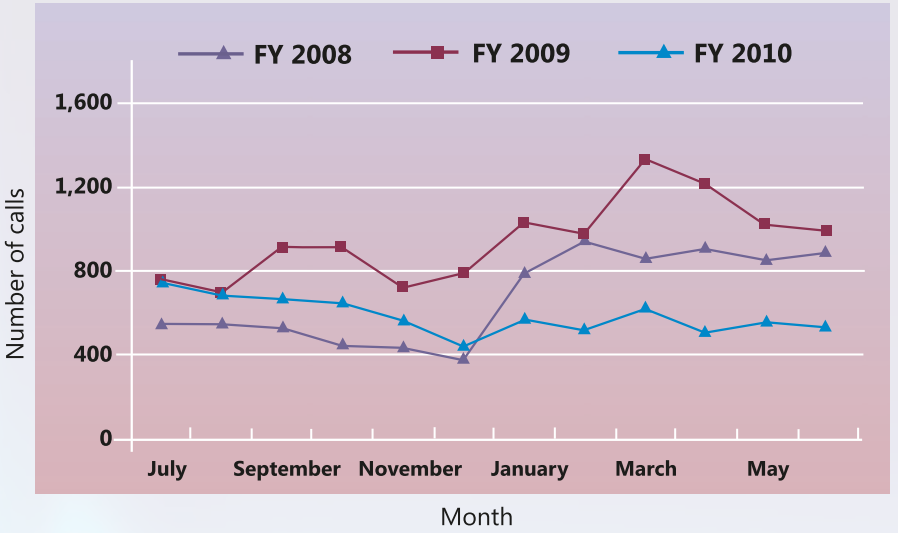
Prevalence of current smoking among adults 18 years and older, Montana, 1990 – 2009.



The prevalence of current smokers decreased for Montana and US adults from 1990-2009.

Figure 13.

Annual calls to the Quit Line (2008-2010)



The number of monthly calls to Montana's Quit Line increased substantially in Fiscal Year 2009 due to the cigarette tax increase and then fell the following year. Since 2004, approximately 14,000 Montanans have quit smoking with use of the Quit Line.

MONTANA TOBACCO QUIT LINE
1-800-QUIT-NOW

Future Direction of Heart Disease and Stroke Efforts 2011-2015

Call to Action

This five-year Heart Disease and Stroke State Plan serves as a broad template for cardiovascular efforts in 2011-2015. We encourage Montana healthcare organizations and worksites to join in improving the cardiovascular health of Montanans. Only a concerted statewide effort will be successful.

Purpose of the State Plan

Managing chronic diseases, such as heart disease and stroke, can be viewed as a continuum of care.

This state plan addresses selected aspects of heart disease and stroke care and prevention. The primary focus for the next five years is:

***A**spirin:*
Increasing appropriate low-dose aspirin therapy according to guidelines

***B**lood pressure:*
Preventing and controlling high blood pressure; reducing sodium intake

***C**holesterol:*
Preventing and controlling high cholesterol

***S**moking Cessation:*
Increasing the number of smokers counseled to quit and referred to quit lines; increasing availability of no or low-cost cessation products.

In addition, some emphasis is placed on improving diagnosis and care of stroke/transient ischemic attack (TIA) and cardiac patients in the pre-hospital and hospital settings.

Goal/Priority Area:
Prevent and control high blood pressure and high cholesterol

State Plan Objectives and Strategies

Objective A1: Decrease the age-adjusted mortality rate in Montana due to cardiovascular disease associated with high blood pressure from 43.6 deaths per 100,000 in 2007 to 41.0 deaths per 100,000 in 2015. *(Data source: Montana DPHHS, Office of Vital Statistics)*

Community setting

- Explore policies of community agencies including senior centers, community pharmacies, home health agencies, county Extension offices, and parish nursing to ensure that policies exist or are adopted to measure blood pressure and provide consumer education about hypertension and the use of home blood pressure monitoring. [Responsible: Hypertension Coalition and CVH Program]

- Work with The University of Montana Skaggs School of Pharmacy and the Montana Pharmacy Association to develop a system for community pharmacists to provide general blood pressure/cholesterol education, instruction on use of a home blood pressure monitor, and counseling on the importance of medication adherence. Pharmacists should give feedback to primary care physicians about education outcomes, monitoring practices and measurements, and medication refill patterns. [Responsible: Hypertension Coalition and CVH Program]

- Raise Montanans' awareness of the importance of knowing their blood pressure/cholesterol values and the need to adequately control their lifelong condition. [Responsible: Hypertension Coalition and CVH Program]
- Establish a "community of hypertension" where schools and other worksites including hospitals and community health centers measure and track blood pressure to identify hypertension and monitor its control. [Responsible: Hypertension Coalition]
- Educate consumers, health care providers, and students on the link between sodium intake and high blood pressure. [Responsible: CVH Program]

Healthcare setting

- Create competencies to improve the quality of office-based blood pressure measuring techniques (including both automated and traditional measuring devices) and to assure consistent office systems for treating patients with hypertension and identifying and diagnosing those at risk. [Responsible: Hypertension Coalition]
- Increase patients' usage of automated blood pressure cuffs for home monitoring and sharing their blood pressure values with physicians to improve control levels. [Responsible: Hypertension Coalition]
- Incentivize the payment structure to encourage providers to have a protocol for hypertension measurement, monitoring and management. [Responsible: Hypertension Coalition]
- Educate providers on advancing therapy for hypertension and lipid control in a cost sensitive manner. [Responsible: CVH Program]
- Use the diabetes model to establish a team care approach for hypertension management. Involve Registered Nurses and Certified Diabetes Educators in providing hypertension education case management. [Responsible: Hypertension Coalition and Montana Diabetes Project]
- Identify feasible mechanisms for uninsured and under-insured Montanans to receive follow-up care once diagnosed with high blood pressure or high cholesterol. [Responsible: Hypertension Coalition and CVH Program]
- Improve blood pressure and cholesterol control of patients at health care facilities that use the Diabetes Quality Care Monitoring System software. [Responsible: Montana Diabetes Project and CVH Program]
- Implement the cardiovascular disease and diabetes prevention program. [Responsible: Montana Diabetes Project and CVH Program]

Worksite setting

- Via the Worksite Health Promotion Coalition Web site, offer Montana businesses resources on blood pressure/cholesterol management for employees and sodium reduction strategies for the worksite setting. [Responsible: Worksite Health Promotion Coalition]
- Conduct a workshop at the Worksite Health Promotion Coalition conference on how to effectively implement heart healthy policies and environmental supports at worksites. [Responsible: Montana Worksite Health Promotion Coalition]
- Modify the Excellence in Worksite Health Promotion award criteria to require sodium reduction strategies in worksites and encourage disease management programs for blood pressure, cardiovascular disease and diabetes. [Responsible: Montana Worksite Health Promotion Coalition]
- Determine the feasibility of a tax credit or incentive for Excellence in Worksite Wellness award recipients. [Responsible: Montana Worksite Health Promotion Coalition]
- Encourage worksites to waive co-pays for blood pressure and lipid-lowering medications, particularly if employees are participating in a disease management program. [Responsible: CVH Program and Montana Worksite Health Promotion Coalition]

Community setting

- Provide telephonic blood pressure management to State and university health plan members with diabetes and uncontrolled high blood pressure. [Responsible: Take Control and CVH Program]

Objective A2: **Increase from 0 to 1 the number of sodium procurement policies or meeting guidelines for foods purchased by, or served in, Montana organizations by December 2015.**

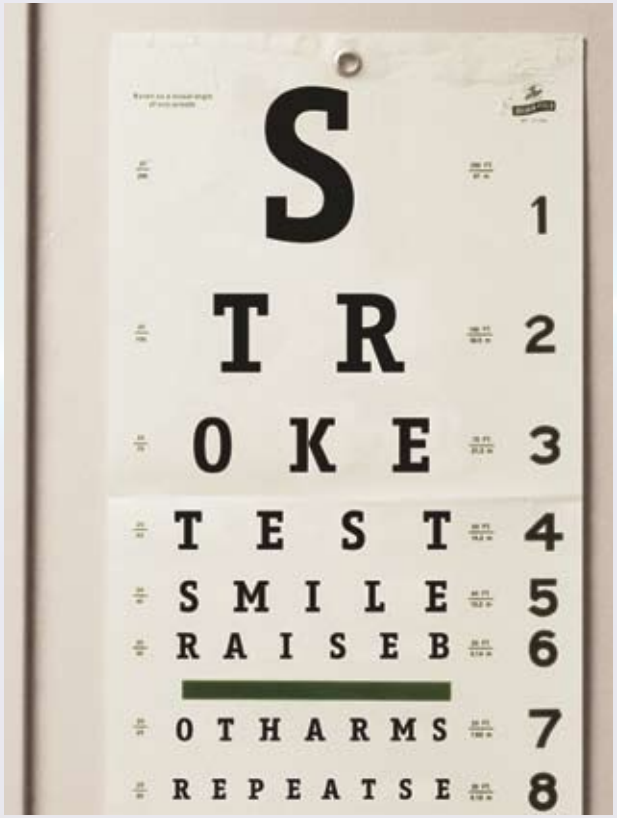
- Create sodium procurement standards for foods that are purchased using State dollars, and set sodium guidelines for food served at State meetings. [Responsible: American Heart Association and CVH Program]

- Add hypertension awareness/monitoring and sodium reduction to Montana's Cardiovascular and Diabetes Prevention Program curriculum. [Responsible: Montana Diabetes Project and CVH Program]

Increase knowledge of signs and symptoms for heart attack and stroke and the importance of calling 9-1-1

Objective B1: **Increase the percentage of Montana adults aged 45 and older exposed to a stroke public awareness campaign in the state's seven larger communities from 82% in 2010 to 85% in 2015.** *(Data source: community telephone surveys)*

- Continue community-based public education campaigns on stroke or heart attack signs and symptoms and the need to call 9-1-1 immediately. Involve schools and other community organizations to increase message awareness. [Responsible: CVH Program]



Stroke Test: *Ask them to smile. Ask them to raise both arms. Ask them to repeat a sentence.*

Goal/Priority Area: Improve emergency response

Objective C1: Increase by 10% the proportion of acute cardiovascular events utilizing emergency response systems where emergency response professionals provide pre-arrival notification to receiving hospitals, by December 2015. *(Data source: DPHHS Emergency and Trauma Systems Section data base)*

- In conjunction with telestroke installations, provide refresher training for local Emergency Medical Services (EMS) on recognition, treatment and transport of stroke patients. [Responsible: CVH Program]
- Track EMS usage of a pre-hospital stroke screening tool via the data collection system of the EMS and Trauma Systems Section. [Responsible: DPHHS EMS and Trauma Systems Section]
- Provide training on 12-lead electrocardiogram monitoring to EMT-Basics to enhance rapid care of cardiac patients. [Responsible: CVH Program]
- Offer Emergency Medical Dispatch training and protocols to dispatchers for early recognition of potential stroke and cardiac patients. [Responsible: CVH Program and DPHHS EMS and Trauma Systems Section]

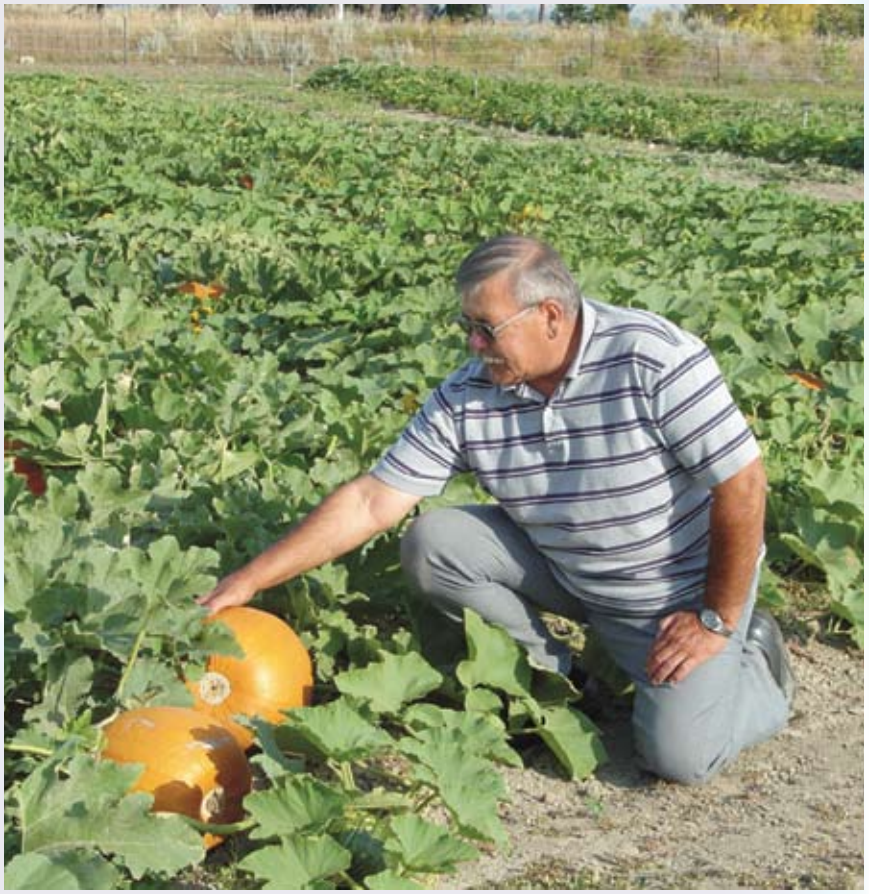
Objective D1: Increase from 0 to 1 the number of stroke/cardiac recognition programs established in Montana by December 2012.

- Develop criteria for a recognition program that sets standards for acute care of stroke and cardiac patients in Montana Critical Access Hospitals. [Responsible: Cardiac and Stroke Workgroups, CVH Program]
- As part of the recognition program, provide incentives to hospitals participating in quality improvement processes that include blood pressure or cholesterol improvement. [Responsible: CVH Program]

Goal/Priority Area: Improve quality of heart disease and stroke care

Objective D2: Decrease stroke mortality rates in Montana from 38.0 deaths per 100,000 in 2007 to 34.0 deaths per 100,000 in 2015. *(Data source: Montana Vital Statistics)*

- Educate the public and primary care providers on recognition and appropriate treatment of stroke and transient ischemic attacks. [Responsible: Stroke Workgroup]
- Assess stroke rehabilitation capabilities of Montana hospitals, nursing homes and skilled nursing facilities. Use the results to address gaps in stroke rehabilitation care. [Responsible: Stroke Workgroup and CVH Program]
- Reduce rural disparities in access to care by expanding the number of telestroke systems located in rural communities. [Responsible: Stroke Workgroup and CVH Program]



Gail Adams, *Harlem resident, stroke survivor*

Objective D3: Decrease coronary heart disease mortality rates from 108.0 deaths per 100,000 in 2008 to 106.0 deaths per 100,000 in 2015. *(Data source: Montana Vital Statistics)*

- Encourage use of telecardiology to enhance care of acute coronary syndrome and heart failure patients (acute and post-discharge) at Critical Access Hospitals. [Responsible: Cardiac Workgroup]

- To improve care of patients with heart failure, develop and disseminate order sets, protocols and post-discharge management guidelines to health professionals. [Responsible: Cardiac Workgroup]

- Add "aspirin usage" as one of the indicators tracked by cardiac rehabilitation facilities participating in the Outcomes Project. [Responsible: CVH Program]

Goal/Priority Area:
Increase the number of smokers counseled to quit and referred to the quit line; increase availability of no or low-cost cessation products

Objective E1: **Decrease the proportion of adults reporting exposure to secondhand smoke in work places from 10% in 2004 to less than 1% in 2016.** *(Data source: Adult Tobacco Survey)*

- Provide resources for smokefree or tobacco-free policy efforts. [Responsible: Montana Tobacco Use Prevention Program]

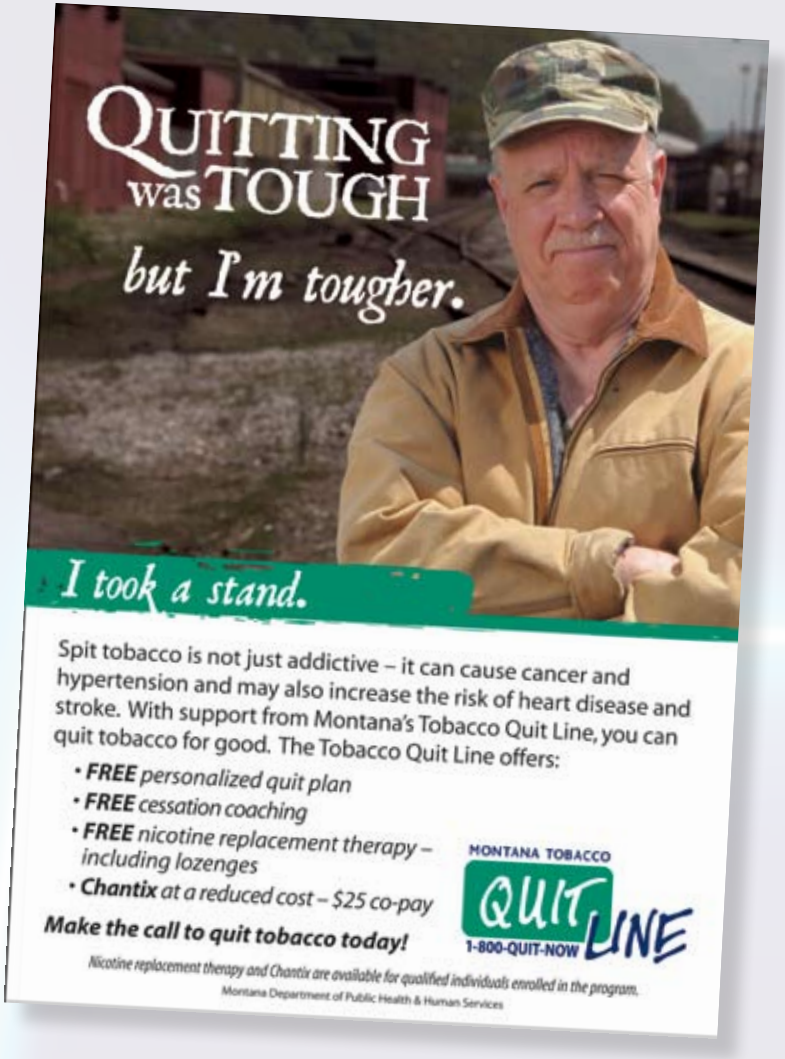
- Add tobacco-free campuses as policy criteria options for the Excellence in Worksite Health Promotion awards. [Responsible: Montana Worksite Health Promotion Coalition]

Objective E2: **Decrease the proportion of adults who are current smokers from 18% in 2004 to 14% in 2016.** *(Data source: Adult Tobacco Survey)*

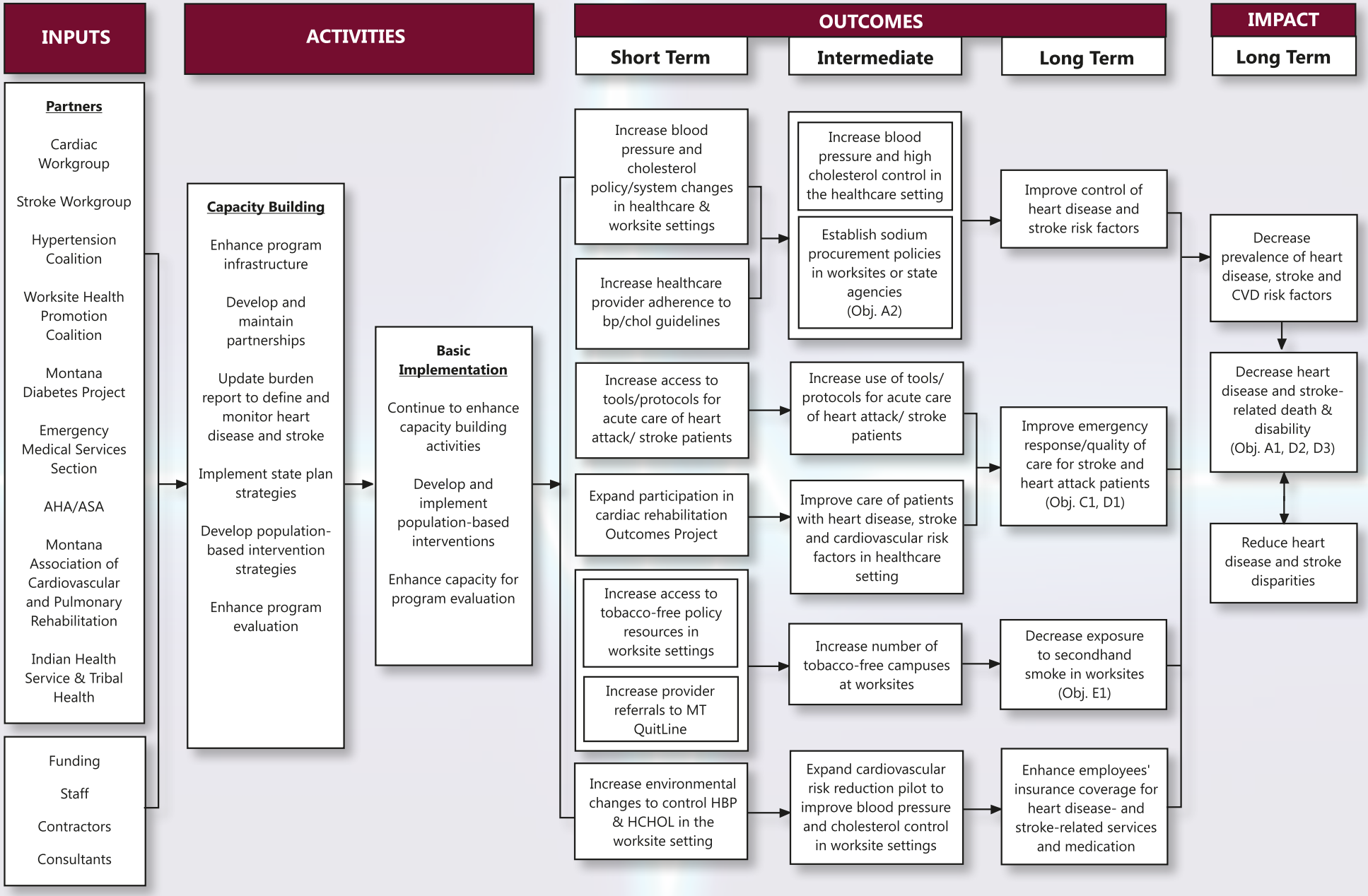
- Maintain the quit line and ensure continued or enhanced benefit levels. [Responsible: Montana Tobacco Use Prevention Program]

- Increase the proportion of current tobacco users who have been advised to quit and offered assistance, information or additional advice to help them quit by their healthcare provider. [Responsible: Montana Tobacco Use Prevention Program and CVH Program]

- Increase the number of healthcare provider referrals to the quit line. [Responsible: Montana Tobacco Use Prevention Program and CVH Program]



CARDIOVASCULAR HEALTH PROGRAM ACTIVITIES (LOGIC) MODEL



Project-Specific Manuscripts

1. Fogle CC et al. Impact of media on community awareness of stroke warning signs: A comparison study. *J Stroke Cerebrovas Dis* 2010 May 1:1-6.

2. Fogle CC et al. Public education strategies to increase awareness of stroke warning signs and the need to call 911. *J Public Health Mgmt Prac* 2008;14(3):E17-E22.

3. McNamara MJ et al. Stroke knowledge among urban and frontier first responders and emergency medical technicians in Montana. *Journal of Rural Health* 2008;24(2):189-93.

4. McNamara MJ et al. The Montana Cardiac Rehabilitation Regional Outcomes Project. *J Cardiopulmonary Rehab and Prev* 2009;29:000-000.

5. Oser CS et al. Educational outreach to improve emergency medical services systems of care for stroke in Montana. *Prehosp Emerg Care* 2010 Jan 22.

6. Okon NJ et al. Statewide efforts to narrow the rural-urban gap in acute stroke care. *Am J Prev Med* 2010;39(4):329-333.

7. Payne GH et al. Stroke awareness: Surveillance, educational campaigns, and public health practice. *J Public Health Mgmt Prac* 2010;16(4): 345-358.

8. Shultis W et al. Striking rural-urban disparities observed in acute stroke care capacity and services in the pacific northwest: implications and recommendations. *Stroke* 2010 Oct;41(10):2278-82.

cover photo of Mount Wright, Montana courtesy of Todd Harwell

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Montana Heart Disease and Stroke Prevention

State Plan 2011-2015

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This publication was supported by Cooperative Agreement Number 5U50 DP000736-05 from CDC. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of CDC.